

Short introduction to photography and Macrophotography

by Pierre HONORE.

Historic.

Cameras today.

- 1-The aperture
- 2-The shutter speed
- 3-depth of field
- 4-Lenses and angles
- 5-Iso or film speed
- 6-Program mode
- 7-Macrophotography

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Joseph-Nicéphore Niépce

The first picture ever taken in the history.
1827 - photo taken with bitumen of Judea on glass plate.



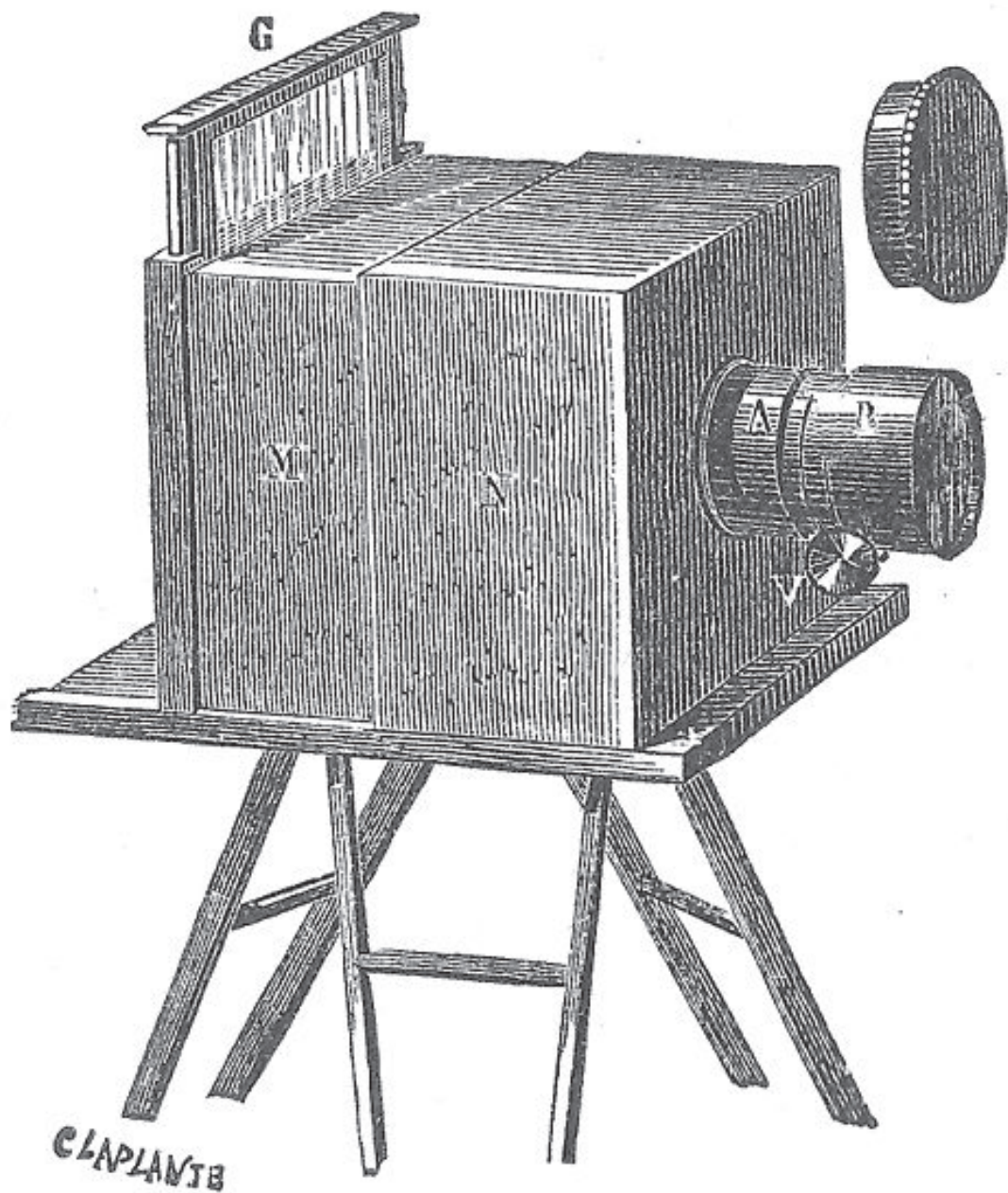
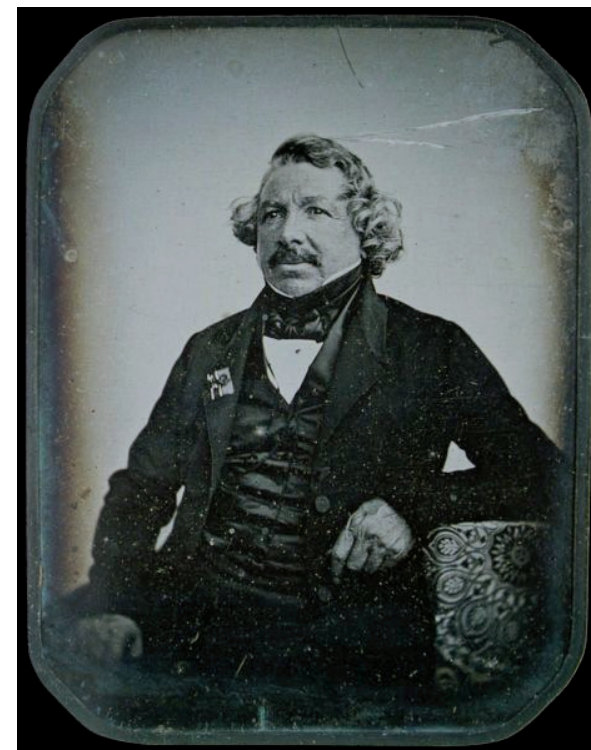


Fig. 327.



Louis Daguerre

The daguerréotype
1839 - works with silver plate.

Cameras today



Large sensor Pro-DSLR medium format



bridge



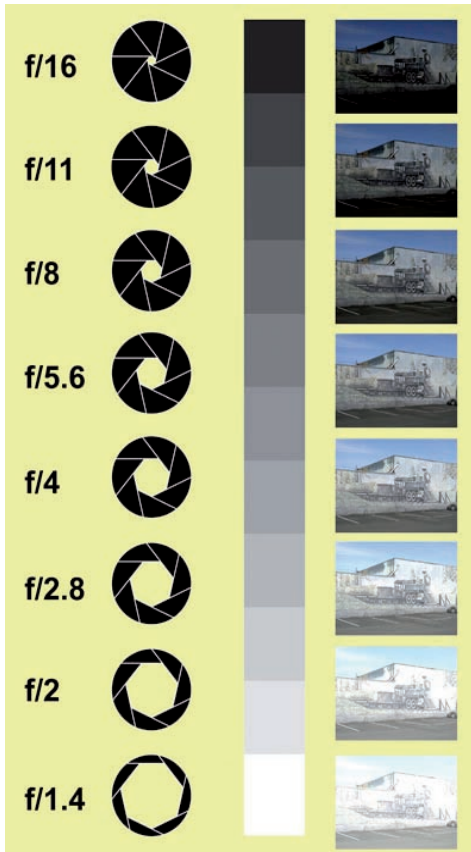
Ren Ng with his Lytro
light field camera

2011 Lytro

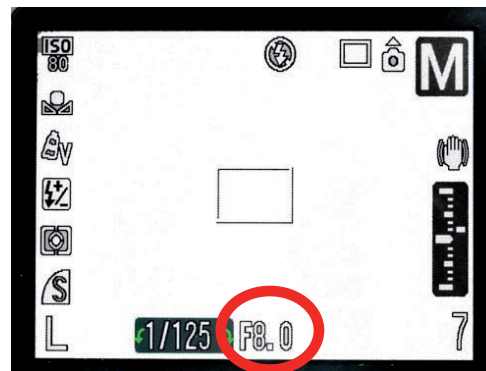
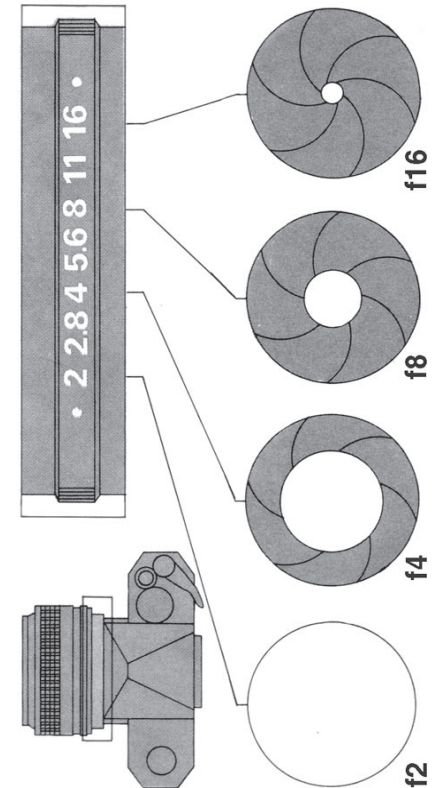
The first camera that focusing after the fact.
Take the picture and focusing post-prod.



1-The aperture

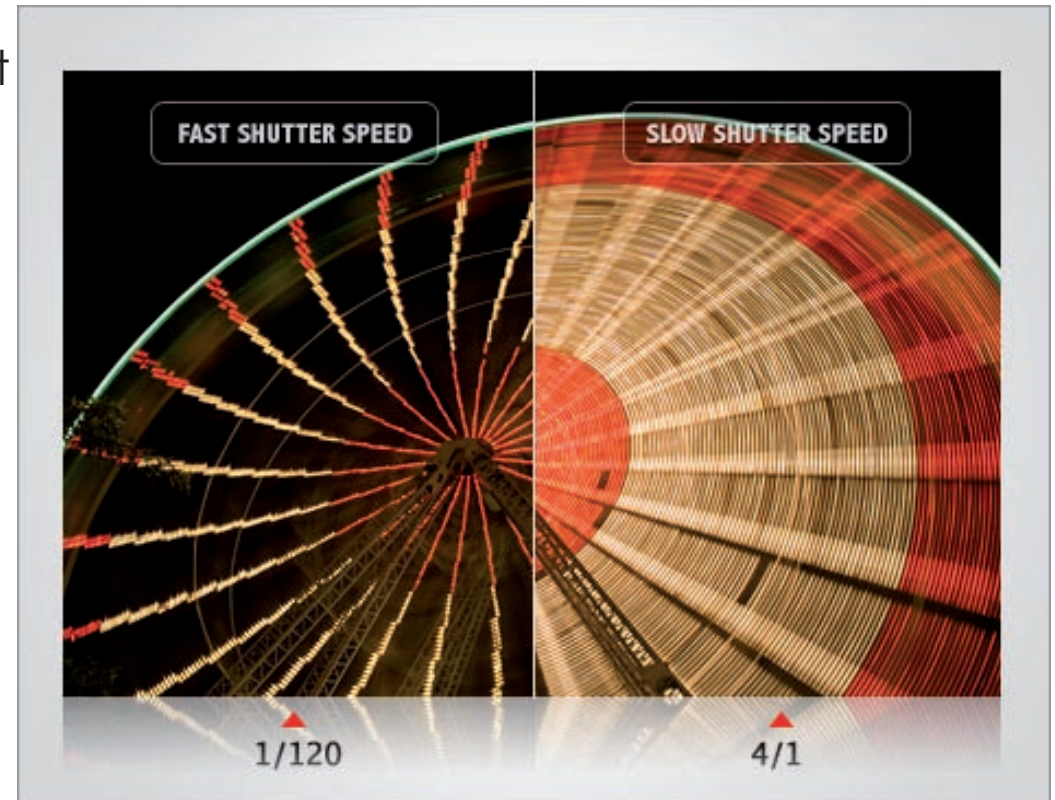
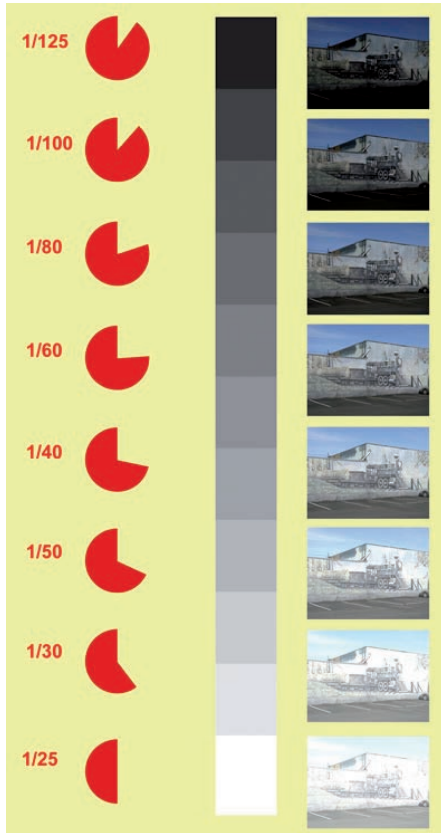


In optics, an aperture is a hole or an opening through which light travels. the more open it is the more light you get. In «Aperture Priority» mode, you manually set the lens aperture, while the camera automatically picks the right shutter speed to properly expose the image



2-The shutter speed

In «Shutter Priority» mode, you manually set the camera's shutter speed and the camera automatically picks the right aperture for you, based on the amount of light that passes through the lens.
tip: useful for subjects in motion like, kids, sports, or any subject that needs to be «frozen». speed limit without tripod is 1/60.





speed: 3h
aperture: f20

speed: 30''
aperture: f11

LOW

photo taken by Pierre Honoré



photo taken by Pierre Honoré

speed: 15''
aperture: f8



photo taken by Pierre Honoré



Hight



3-Depth of field

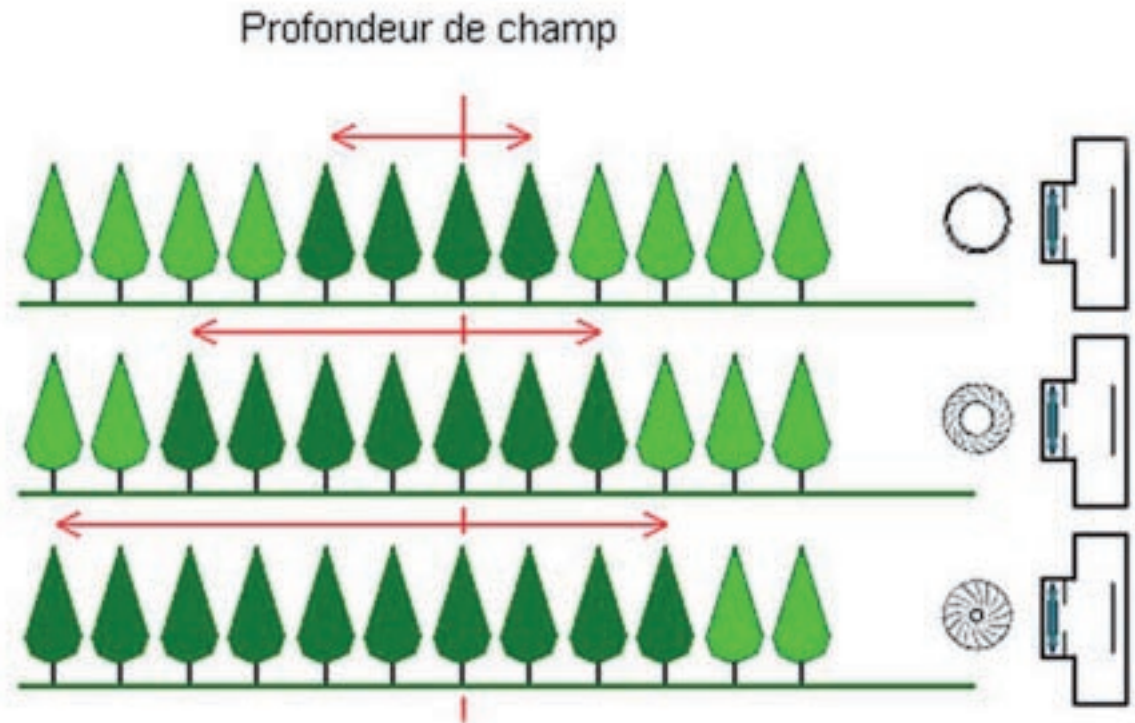
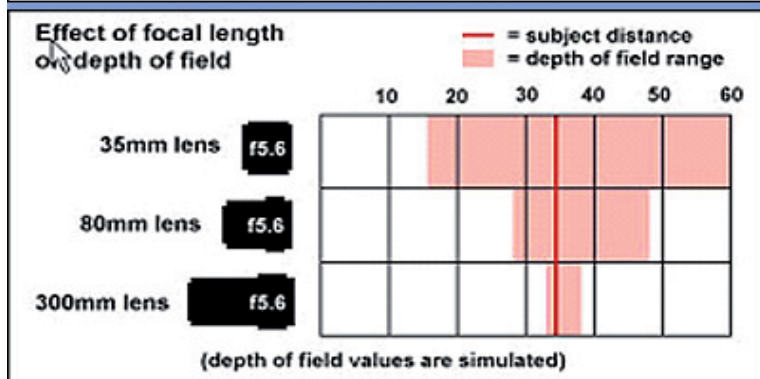
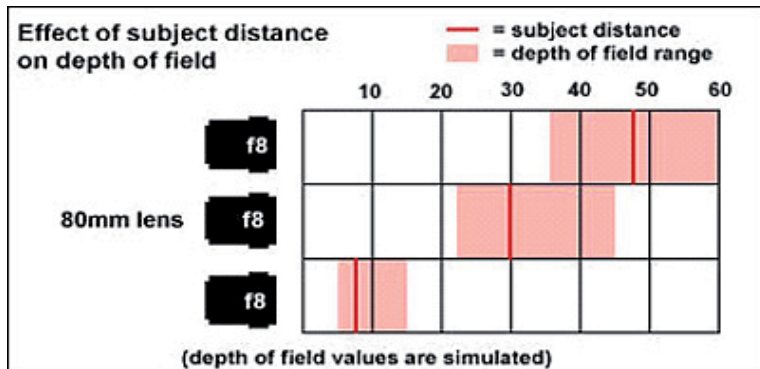
In optics, particularly as it relates to film and photography, depth of field (DOF) is the distance between the nearest and farthest objects in a scene that appear acceptably sharp in an image.

tip: choose «aperture priority» mode better control the DOF.



speed: 1/10 aperture: f22 on tripod

speed: 1/400 aperture: f2.8 on tripod



4-Lenses and focal length



200 mm



70 mm



50 mm

Focal lengths are usually specified
in millimetres (mm)

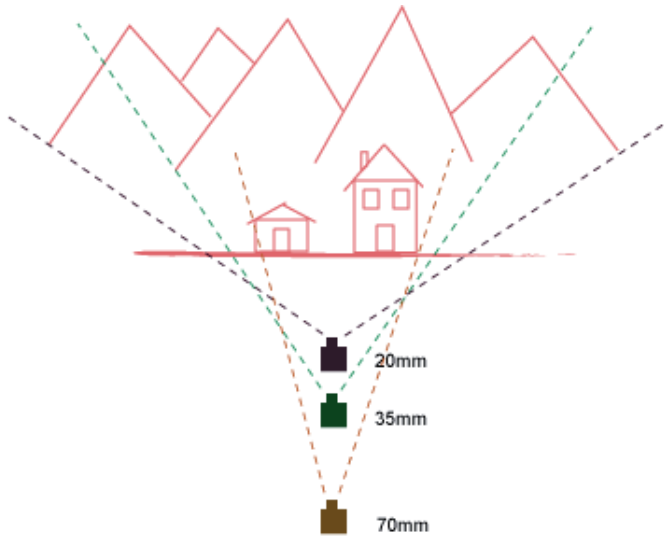


24 mm



14 mm

photos taken by Pierre Honoré



50mm



500 and 600mm



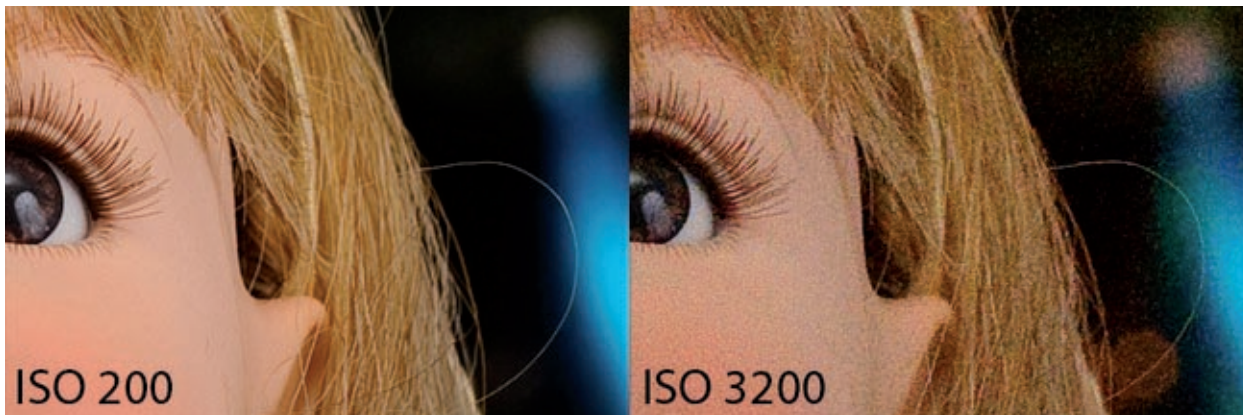
10mm fish-eye

5-Iso or film speed

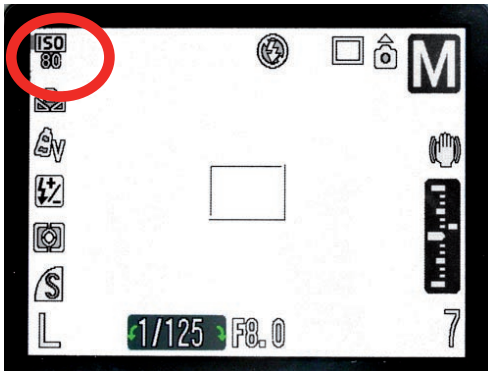
In very basic terms, ISO is the level of sensitivity of your camera to available light. The lower the ISO number, the less sensitive it is to the light, while a higher ISO number increases the sensitivity of your camera. The component within your camera that can change sensitivity is called “image sensor” or simply “sensor”. It is the most important (and most expensive) part of a camera and it is responsible for gathering light and transforming it into an image.

When to increase ISO

You should increase the ISO when there is not enough light for the camera to be able to quickly capture an image. Anytime I shoot indoors without a flash, I set my ISO to a higher number to be able to freeze motion.



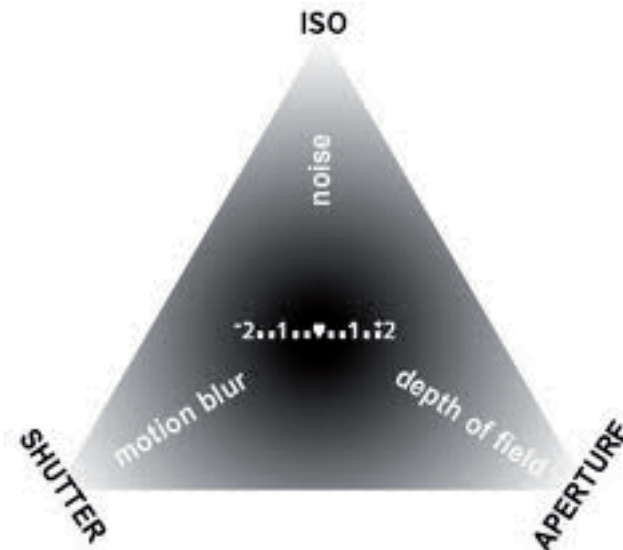
The higher it is the more «noise» (grainy) you get and less definition you have.



Tip: for compact cameras, do not use iso over 400. beyond that you may have too much «noise» and chromatic aberrations (colour defects).

In brief: when you master aperture, shutter and iso all together. first you get total control of your camera then you can expect better results for your images, then you get the power.

control of the sensitivity sensor



control of the speed:

- sharp motion
- blurred motion

control of the aperture:

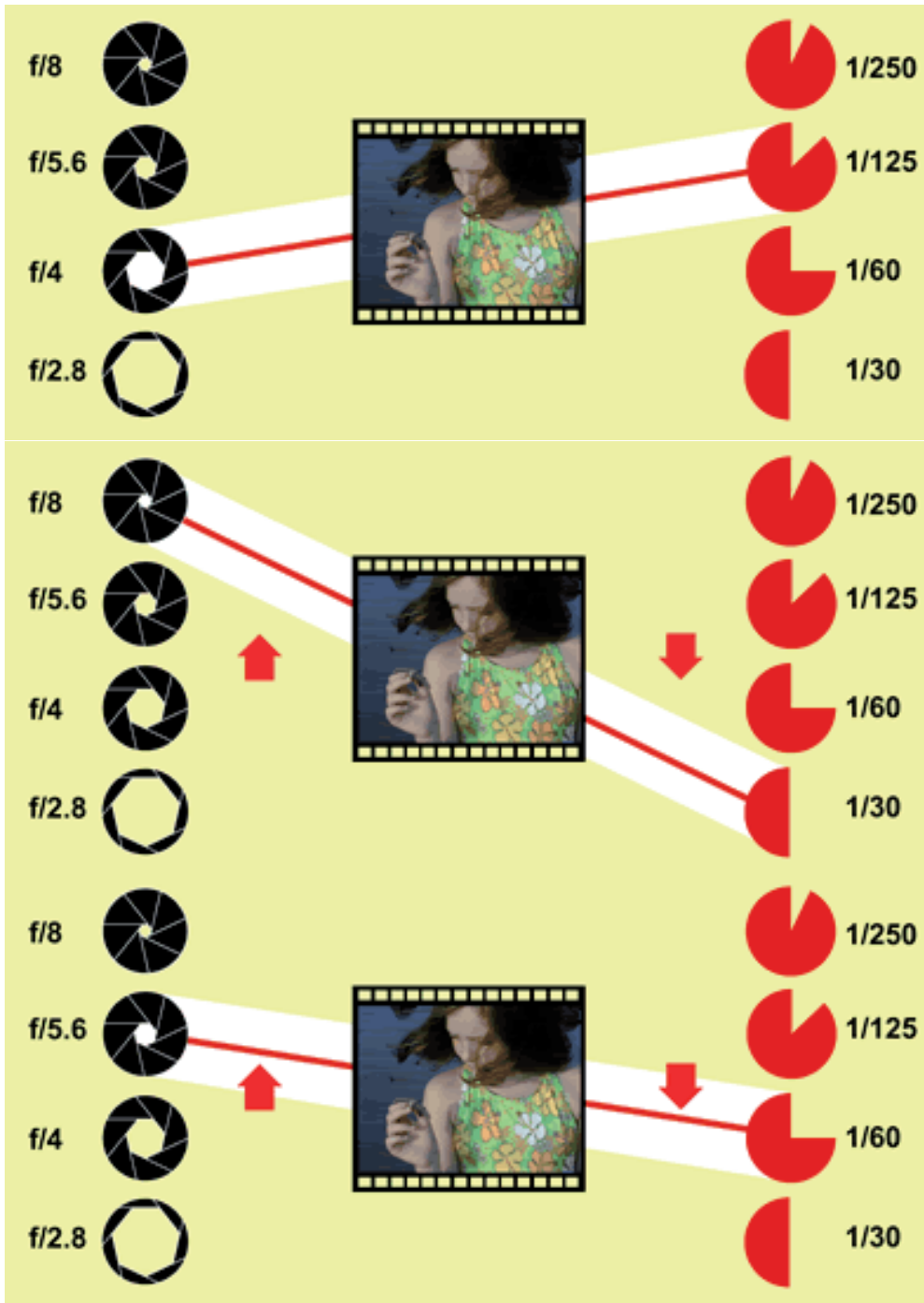
- sharpness and blur
- depth of field

6-Program mode.

The relationship between aperture and speed shutter.



In "Program" mode, the camera automatically chooses the Aperture and the Shutter Speed for you, based on the amount of light that passes through the lens. This is the mode you want to use for "point and shoot" moments, when you just need to quickly snap a picture.



7-Macrophotography

Macrophotography is close-up photography, usually of very small subjects.



photos taken by Pierre Honoré

Tools

For reflex slr an dslr camera:
lense 50mm 60mm 105mm
Macro lens



A tripod



light and accessories



Tip: you can also take a piece of green fabric
to make a background. tape, stick of wood
glue...

Light management



Backlight

often too flat it
gives bad colors
your subject



Frontlight

bad background
good for subject
with no specific
textures. it gives
an objective
point of view



Sidelight

3/4 or 1/2 angle from
right or left gives
more texture to your
subject.

photos taken by Pierre Honoré

The background

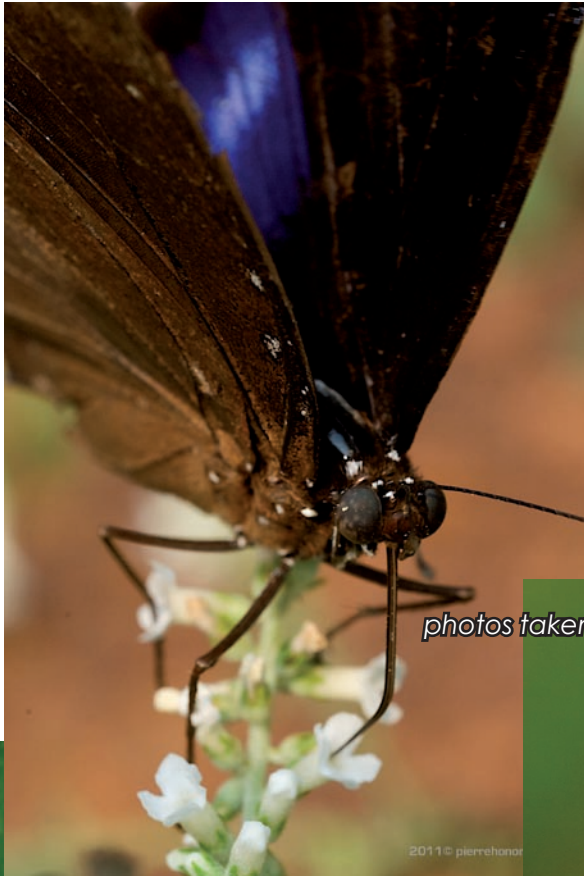


Confused and difficult
to read

Clear and detached
easy to read



photos taken by Pierre Honoré



photos taken by Pierre Honoré



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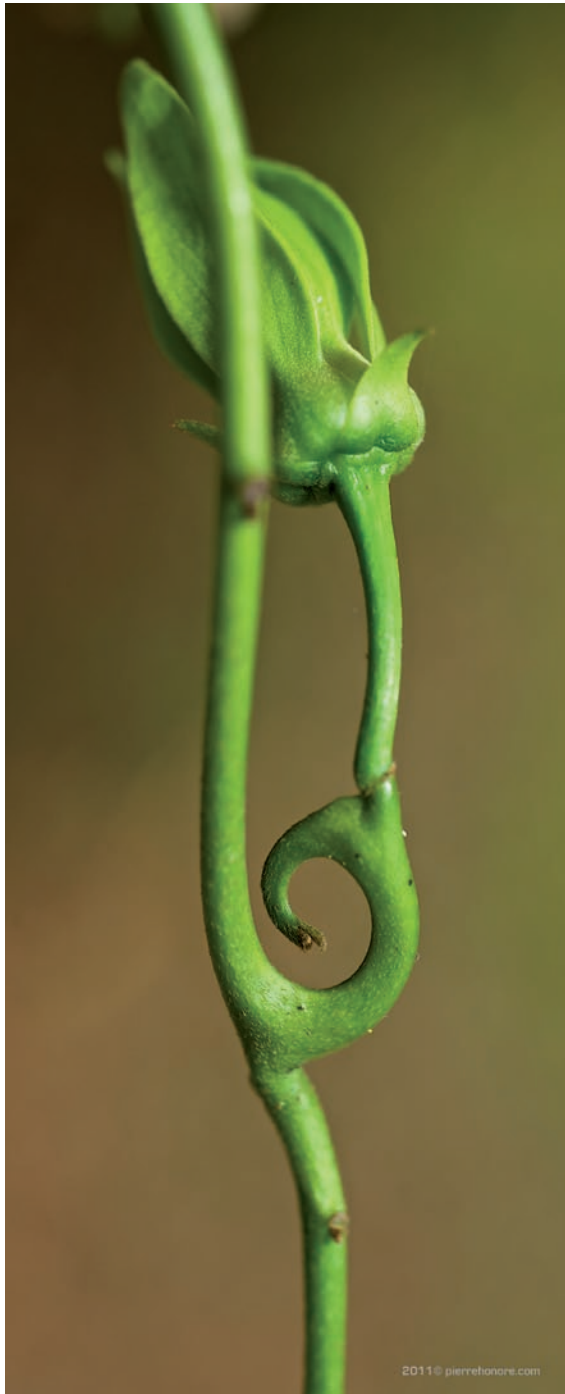


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The End

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